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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,557	05/31/2001	Ralph A. Barrese	END920000071US1(13677)	4039

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EXAMINER

NICOLAS, WESLEY A

ART UNIT

PAPER NUMBER

1742

DATE MAILED: 08/14/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/871,557

Applicant(s)

BARRESE ET AL.

Examiner

Wesley A. Nicolas

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-38 is/are pending in the application.
- 4a) Of the above claim(s) 11-16, 37 and 38 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-10, 17-36 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☒ Interview Summary (PTO-413) Paper No(s) 3.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: .

DETAILED ACTION

Election/Restriction

1. Restriction to one of the following inventions is required under 35 U.S.C. 121:
 - I. Claims 1-10, and 17-36, drawn to an apparatus, classified in class 204, subclass 224R.
 - II. Claims 11-16, and 37-38, drawn to a method, classified in class 205, subclass 96.
2. The inventions are distinct, each from the other because of the following reasons:

Inventions II and I are related as process and apparatus for its practice. The inventions are distinct if it can be shown that either: (1) the process as claimed can be practiced by another materially different apparatus or by hand, or (2) the apparatus as claimed can be used to practice another and materially different process. (MPEP § 806.05(e)). In this case the apparatus as claimed can be used to practice another and materially different process such the electropolishing (*i.e.* etching) of a workpiece.
3. Because these inventions are distinct for the reasons given above and have acquired a separate status in the art as shown by their different classification, restriction for examination purposes as indicated is proper.

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4. Because these inventions are distinct for the reasons given above and the search required for Group I is not required for Group II, restriction for examination purposes as indicated is proper.

5. During a telephone conversation with John Sensny on July 29, 2003, a provisional election was made **with** traverse to prosecute the invention of Group I, claims 1-10, and 17-36. Affirmation of this election must be made by applicant in replying to this Office action. Claims 11-16, and 37-38 have been **withdrawn** from further consideration by the examiner, 37 CFR 1.142(b), as being drawn to a non-elected invention.

Claim Objections

6. Claim 6 is objected to because of the following informalities: Claim 6 should be dependent from claim 5 because there is no antecedent basis for "said movement relative to each other".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

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(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-4, 9, 17-20, and 30-36 are rejected under 35 U.S.C. 102(e) as being anticipated by Wilson et al. (U.S. 2003/0038035).

Claim 1 is rejected because Wilson et al. teach of an Apparatus for electroplating a workpiece, comprising:

- an anode (¶ 0041), and a cathode (¶ 0041) for supporting the workpiece, wherein the anode and cathode are immersed in a solution, for generating an electric field emanating from the anode towards the cathode, to generate a corresponding current to deposit an electroplating material on the workpiece during an electroplating process (¶ 0041); and
- a selective anode shield/material flow assembly located between the anode and the cathode, and forming a multitude of adjustable openings, the openings having sizes that are adjustable during the electroplating process for selectively and controllably adjusting the amount of electric flux passing through the shield/material flow assembly and the distribution of the electroplating material across the workpiece (¶ 0069).

Claim 2 is rejected because Wilson et al. teach of a control connected to the selective shield/material flow assembly for adjusting the sizes of the openings of the shield/material flow assembly during the electroplating process (¶'s 0068 to 0070).

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Claim 3 is rejected because Wilson et al. teach that said selective shield/material flow assembly includes at least one selective shield material flow mechanism forming a first series of openings (¶'s 0068 to 0070).

Claim 4 is rejected because Wilson et al. teach that the selective shield/material flow assembly includes a first shield/material flow mechanism forming a first series of openings, and a second shield/material flow mechanism forming a second series of openings; and the first and second series of openings form the adjustable openings of the selective shield/material flow assembly (¶'s 0068 to 0070 wherein the diffuser has a first series of openings and the adjustable diaphragm as a second series of openings).

Claim 9 is rejected because Wilson et al. teach of a support supporting the selective shield/material flow mechanisms for movement toward and away from at least one of the anode and the cathode (¶'s 0068 to 0070: "*the distance between the microelectronic workpiece 101 and the electrodes 600a-d and/or the shield 580 is adjusted*").

Claim 17 is rejected because Wilson et al. teach of an apparatus for electroless plating comprising:

- a work piece (¶'s 0068 to 0070: numeral 101);
- a fixture supporting said work piece (Fig. 1, numeral 9), wherein said fixture supporting said work piece is immersed in an electroless plating solution (¶ 0004), for generating an electric potential emanating from said electroless plating solution towards said work piece for depositing material on said work piece; a electroless plating flow source; a selective shield/material flow assembly located between said

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electroless plating solution source and said fixture supporting said work piece, and forming a multitude of adjustable openings, said openings having sizes that are adjustable for selectively and controllably adjusting the amount of electroless solution passing through said selective shield/material flow assembly and the distribution of depositing material on said work piece (¶'s 0068 to 0070).

It should be noted that the limitation of an "electroless plating solution" is merely a method limitation which does nothing to define the apparatus. Claims directed to apparatus must be distinguished from the prior art in terms of structure rather than function. In re Danly, 120 USPQ 528, 531 (CCPA 1959). "Apparatus claims cover what a device is, not what a device does." Hewlett-Packard Co. v. Bausch & Lomb Inc., 15 USPQ2d 1525, 1528 (Fed. Cir. 1990). The intended use and operating method of an apparatus is not germane to the issue of patentability of the apparatus. In re Casey, 370 F.2d 576, 580, 152 USPQ 235, 238 (CCPA 1967). Furthermore, a claim containing a "recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from the prior art apparatus" if the prior art apparatus teaches all the structural limitations of the claim. Ex parte Masham, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987). See MPEP § 2114.

Claim 18 is rejected because Wilson et al. teach of an apparatus for depositing material on a work piece comprising:

- a source of depositing material (¶ 0004);
- a transport medium (¶ 0069: "electroprocessing fluid");

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- a work piece holder (Fig. 1, numeral 9);
- at least one work piece supported in said work piece holder and immersed in said transport medium (¶'s 0068 to 0070);
- a selective shield/material flow assembly also immersed in said transport medium, located between said source of depositing material and said work piece holder, said selective shield/material flow assembly forming at least one adjustable opening, said at least one adjustable opening having a size that is adjustable for selectively and controllably adjusting the amount of said depositing material passing through said selective shield/material flow assembly and the distribution of said depositing material on said at least one work piece (¶'s 0068 to 0070).

Claim 19 is rejected because Wilson et al. teach of a control connected to said selective shield/material flow assembly for adjusting the size of said at least one adjustable opening of said selective shield/material flow assembly (¶ 0069).

Claim 20 is rejected because Wilson et al. teach of at least one adjustable opening of said selective shield/material flow assembly is a multitude of openings having adjustable sizes (¶ 0069).

Claim 30 is rejected because Wilson et al. teach that said source of depositing material is an anode, said work piece holder is a cathode, and said transport medium is an electroplating solution (¶ 0069: "electroprocessing fluid"), wherein said anode and said cathode are immersed in said electroplating solution for generating an electric field emanating from said anode towards said cathode, to generate a corresponding current

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to deposit an electroplating material on said work piece during electroplating (¶'s 0068 to 0070).

Claim 31 is rejected because Wilson et al. teach that the selective shield/material flow assembly selectively and controllably adjusts the amount of electric flux passing through said selective shield/material flow assembly (¶'s 0068 to 0070).

Claim 32 is rejected because Wilson et al. teach that said source of depositing material is chosen from the group consisting of orifices (¶ 0069).

Claims 33-34 are rejected because Wilson et al. teach that said source of depositing material comprises metal ions such as gold, copper, and silver (¶ 0004).

Claim 35 is rejected because Wilson et al. teach that said transport solution medium is an electroless plating solution (¶ 0004).

Claim 36 is rejected because Wilson et al. teach that said transport medium is selected from the group consisting of plating solution (¶'s 0004 and 0069).

Allowable Subject Matter

9. Claims 5-8, 10, and 21-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

The specific features of:

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- means connecting the first and second selective shield material flow mechanisms together for movement relative to each other, and wherein said first and second selective shield material flow mechanisms are moved relative to each other to change the sizes and locations of the adjustable openings; or
- first set of slats supported by the first support member, and positioned so as to form the first series of openings; and the second selective shield/material flow mechanism includes a second support member, and a second set of slats supported by the second support member, and positioned so as to form the second series of openings; or
- a support that supports the selective shield/material flow mechanism for movement along three mutually orthogonal axes, relative to both the anode and the cathode; or
- multitude of openings having adjustable sizes are formed by pivoting flaps were not taught or suggested by the prior art of record.

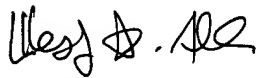
Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley Nicolas whose telephone number is (703)305-0082. The examiner can normally be reached on Mon.-Thurs. from 7am to 5pm.

The Supervisory Primary Examiner for this Art Unit is Roy King whose telephone number is (703) 308-1146.

The fax number for this Group is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (703) 308-0661.



Wesley A. Nicolas

August 7, 2003